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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,290	08/06/2003	Hidetoshi Suzuki	2842.16US01	8037

7590 10/08/2004

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EXAMINER
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SCHWARTZ, CHRISTOPHER P

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 10/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/635,290

Applicant(s)

SUZUKI ET AL.

Examiner

Christopher P. Schwartz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

CHRISTOPHER P. SCHWARTZ  
PRIMARY EXAMINER

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The information disclosure statement has been received and considered.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Claims 24,25 are rejected under 35 U.S.C. 102(b) as being anticipated by Poertzgen et al..

Regarding claims 24,25 Poertzgen et al. ('235) discloses an electric parking brake system comprising an actuator having an electric motor 42 and an output shaft 26 or 46, as broadly claimed, a frictional member (not shown but the friction pads inherent therein), a drive circuit which supplies a voltage to the electric motor (also inherent in the device, as broadly claimed) and a controller at 48.

Although Poertzgen et al. ('235) lacks specifically discussing the supply of a “determined” voltage from the controller and the time duration thereof, such is considered to be inherent in the device of Poertzgen et al., as broadly claimed. See the alternative interpretation below.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-6,10-18,21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Poertzgen et al. '235 in view of Shirai et al. '643.

Regarding claims 1,13,24,25 Poertzgen et al. ('235) discloses an electric parking brake system comprising an actuator having an electric motor 42 and an output shaft 26 or 46, as broadly claimed, a frictional member (not shown but the friction pads inherent therein), a drive circuit which supplies a voltage to the electric motor (also inherent in the device, as broadly claimed) and a controller at 48.

Poertzgen et al. ('235) lacks specifically discussing the supply of voltage from the controller and the time duration thereof.

However, as broadly claimed, as to the length of the claimed “predetermined period” any voltage supplied to the electric motor in ‘235 could be said to be constant for a predetermined period, as broadly claimed.

Notwithstanding this argument Shirai et al. 643 teaches in col. 1 the known concept that the power supplied to the electric motor from the controller may not be held constant (although it may be) – but is determined by the amount of brake demand.

One having ordinary skill in the art at the time of the invention would have found it obvious to have adapted the controller of ‘235 so that it supplies a constant voltage to the electric motor dependent upon braking demand or road conditions to avoid power fluctuations i.e. excessive energy consumption.

Regarding claims 2-6,10-12,14-18,21-23 please see the discussions in column 2, top of col. 3 and column 4 in its entirety. The claimed limitations are simply an obvious alternative equivalent method of controlling the electric motor to apply and adjust the braking force of ‘235, as modified. It is well known to control the electric brake motor to meet safety requirements, power limitations, and temperature constraints. Applicants lack any criticality in the specification for many of the claimed limitations in light of known methods for controlling the operation of the electric motor known in the art.

6. Claims 7-9,19,20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Poertzgen et al. in view of Shirai et al. as applied to claim 1 above, and further in view of Mohr et al..

Poertzgen et al., as modified, lacks a discussion of the controller using PWM to control the voltage supplied to the motor.

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It is notoriously well known in the art to use PWM to control the power supplied to electrically actuated brake motors to reduce power consumption and increase efficiency and responsiveness to brake demand requirements.

Mohr et al. is relied upon for this general teaching in column 4 lines 26-40.

One having ordinary skill in the art at the time of the invention would have found it obvious to have incorporated PWM control into the controller of Poertzgen et al. for the reasons given above.

The limitations of claims 8,9,19,20 would have been obvious simply dependent upon the desired operation of the electric motor (i.e. motor operating speed, responsiveness, operating temperature constraints etc.) and safety requirements of the brake system.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The art cited has been cited for showing other types of methods of controlling the electric motor in braking systems.

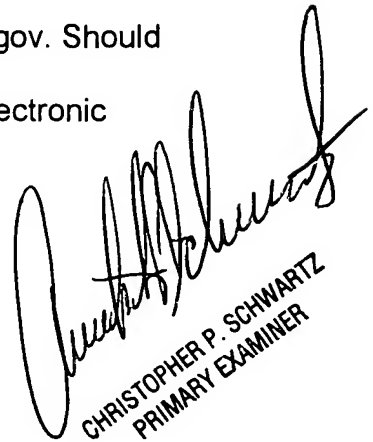
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P. Schwartz whose telephone number is 703-308-0576. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack W. Lavinder can be reached on 703-308-3421. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cps  
9/29/04



CHRISTOPHER P. SCHWARTZ  
PRIMARY EXAMINER